



# National Transportation Safety Board Aviation Accident Data Summary

<b>Location:</b>	CONCORD, CA	<b>Accident Number:</b>	LAX93LA088
<b>Date &amp; Time:</b>	01/02/1993, 1345 PST	<b>Registration:</b>	N2008M
<b>Aircraft:</b>	PIPER PA-28R-201T	<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

## Analysis

DURING AN IFR FLIGHT AT ABOUT 11,000 FEET MSL, THE AIRPLANE'S ENGINE BEGAN TO RUN ROUGH AND THE ENGINE OIL PRESSURE DROPPED TO ZERO. THE PILOT ALSO SAID HE SMELLED SOMETHING THAT WAS BURNING. THE PILOT ENTERED A DESCENT AND REQUESTED VECTORS TO THE NEAREST AIRPORT. WHILE ON THE VECTOR, THE ENGINE BEGAN TO RUN ROUGHER AND THE BURNING SMELL BECAME STRONGER. THE PILOT SHUT DOWN THE ENGINE AND ENTERED A POWER OFF FORCED LANDING. HE BROKE OUT OF THE CLOUDS AND DETERMINED THAT HE COULD NOT GLIDE TO THE AIRPORT. HE PERFORMED A LANDING TO THE ONLY AVAILABLE AREA. DURING TOUCHDOWN, THE AIRPLANE COLLIDED WITH POSTS. AN FAA SAFETY INSPECTOR EXAMINED THE ENGINE. HE DETERMINED THAT 1 OF THE 4 BOLTS USED TO BOLT THE ENGINE OIL PUMP COVER TO THE CRANKCASE WAS MISSING. A DAMAGED BOLT WAS FOUND IN THE ENGINE'S CAMSHAFT GEAR. THE TAB WASHERS USED TO LOCK THE OIL PUMP COVER BOLTS HAD THEIR SINGLE TAB BENT DOWNWARD. THE TAB WASHERS' TWIN TABS ON THE 3 REMAINING BOLTS WERE POINTED STRAIGHT OUT. THEY APPEARED TO HAVE NEVER BEEN BENT INTO PLACE AFTER THE BOLTS WERE TIGHTENED. IMPROPER INSTALLATION OF THE WASHERS RESULTED IN ONE BOLT FALLING OFF AND BEING INGESTED THROUGH VARIOUS DRIVE GEARS. THE ENGINE WAS OVERHAULED BY THE MANUFACTURER 515 HOURS PRIOR TO THE ACCIDENT.

## Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE ENGINE MANUFACTURER FAILING TO PROPERLY INSTALL TAB WASHERS DURING OVERHAUL WHICH RESULTED IN ONE BOLT BECOMING LOOSE AND BEING INGESTED THROUGH VARIOUS ENGINE GEAR DRIVES. THE INGESTION AND LOOSE OIL PUMP COVER RESULTED IN THE ENGINE RUNNING ROUGH AND A BURNING SMELL WHICH CAUSED THE PILOT TO HAVE TO SHUT DOWN THE ENGINE.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL  
Phase of Operation: CRUISE - NORMAL

### Findings

1. (C) LUBRICATING SYSTEM,OIL PRESSURE PUMP - LOOSE
2. (C) MAINTENANCE,INSTALLATION - IMPROPER - MANUFACTURER
3. FLUID,OIL - PRESSURE TOO LOW
4. EMERGENCY PROCEDURE - PERFORMED - PILOT IN COMMAND

## 5. PRECAUTIONARY LANDING - INITIATED - PILOT IN COMMAND

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Findings

6. TERRAIN CONDITION - NONE SUITABLE

7. TERRAIN CONDITION - RESIDENTIAL AREA

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Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

8. OBJECT - SIGN

9. OBJECT - FENCE

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	49
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Instrument Rating(s):</b>	Airplane
<b>Other Aircraft Rating(s):</b>	None	<b>Instructor Rating(s):</b>	None
<b>Flight Time:</b>	716 hours (Total, all aircraft), 62 hours (Total, this make and model), 628 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	PIPER	<b>Registration:</b>	N2008M
<b>Model/Series:</b>	PA-28R-201T PA-28R-201	<b>Engines:</b>	1 Reciprocating
<b>Operator:</b>	RICHARD TALLEY/LARRY SHATTUCK	<b>Engine Manufacturer:</b>	CONTINENTAL
<b>Operating Certificate(s) Held:</b>	None	<b>Engine Model/Series:</b>	TSIO-360-FB3
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual Conditions	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	CCR, 23 ft msl	<b>Weather Information Source:</b>	Weather Observation Facility
<b>Lowest Ceiling:</b>	Broken / 5000 ft agl	<b>Wind Speed/Gusts, Direction:</b>	4 knots / , 350°
<b>Temperature:</b>	9°C	<b>Visibility</b>	30 Miles
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	NAVATO, CA (O56)	<b>Destination:</b>	UPLAND, CA (CCB)

## Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None

Latitude, Longitude:

## Administrative Information

Investigator In Charge (IIC): RICHARD V CHILDRESS      Adopted Date: 11/15/1993

Investigation Docket: NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at [pubinq@ntsb.gov](mailto:pubinq@ntsb.gov), or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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